

Fig. 1A

Peniophora numbers	1	37
Alignment numbers		50
P_involtus_A1	.....ML FGFVALACLL	SLSEVLATSV P.....KNT APTFPIPESE
P_involtus_A2	.....MH LGFVTLACLI	HLSEVFAASV P.....RNI APKFSIPESE
T_pubescens	.....MAFSILASLL	FVCYAYARAV PRAHIPLRDT SACLDVTRDV
A_pediades	.....MSLFIGGCLL	VFLQASAYGG VVQATFVQPF ....FPPQI
P_lycii	.....MV SSAFAPSILL	SLMSSLALST QFSF....V AAQLPIPAQN
A_fumigatus	.....MVTL TFLLSAAYLL	.SGRVSAAPS SAGSKSCDTV DLGYQCSPAT
consphyA	.....MGVF VVLLSIATLF	GSTSGTALGP RGNSHSCDTV DGGYQCFPEI
A_nidulans	.....MAFF TVALSLYYLL	..SRVSAQAP VVQNHSCNTA DGGYQCFPNV
A_ficuum_NRRL3135	.....MGVS AVLLPLYLLS	GVTSGLAVPA SRNQSSCDTV DQGYQCFSET
A_terreus	.....MGFL AIVLSVALLF	RSTSGTPLGP RGKHSDCNSV DHGYQCFPEL
T_thermo	.....MSLL LLVLSGGLVA	LYVS...RNP HVDSHSCNTV EGGLYQCRPEI
T_lanuginosa	MAGIGLGSFL VLLLQFSALL	TASPAIPPFW RKKHPNVD.. ....I
M_thermophila	.....MTGL GVMVVMVGFL	AIASL..... QSESRPCDTP DLGFQCGTAI
	38	83
	51	100
P_involtus_A1	QRNWSPYSPY FPLAEYKA..	..PPAGCQIN QVNIIQRHGA RFPTSGATTR
P_involtus_A2	QRNWSPYSPY FPLAEYKA..	..PPAGCEIN QVNIIQRHGA RFPTSGAATR
T_pubescens	QQSWSMYSFY FPAATYVA..	..PPASCQIN QVHIIQRHGA RFPTSGAAKR
A_pediades	QDSWAAYTPY YPVQAYTP..	..PPKDCKIT QVNIIQRHGA RFPTSGAGTR
P_lycii	TSNWGPYDPF FPVEPYAA..	..PPEGCTVT QVNLIQRHGA RWPTSGARSR
A_fumigatus	SHLWGQYSPF FSLEDELSVS	SKLPKDCRIT LVQVLSRHGA RYPTSSKSKK
consphyA	SHLWGQYSPY FSLEDESAIS	PDPVDDCRVT FVQVLSRHGA RYPTSSKSKA
A_nidulans	SHVWGQYSPY FSIEQESAIS	EDVPHGCEVT FVQVLSRHGA RYPTESKSKA
A_ficuum_NRRL3135	SHLWGQYAPF FSLANESVIS	PEVPAGCRVT FAQVLSRHGA RYPTDSKGKK
A_terreus	SHKGWGLYAPY FSLQDESPFP	LDVPEDCHIT FVQVLRHGA RSPTHSKTKA
T_thermo	SHSWGQYSPF FSLADQSEIS	PDPVQNCKIT FVQLLSRHGA RYPTSSKTEL
T_lanuginosa	ARHWGQYSPF FSLAEVSEIS	PAVPKGCRVE FVQVLSRHGA RYPTAHKSEV
M_thermophila	SHFWGQYSPY FSVP..SEL	ASIPDDCEVT FAQVLSRHGA RAPTLKRAAS
	84	133
	101	150
P_involtus_A1	IKAGLTKLQG VQNFTDAKFN	FIKSFKYDLG NSDLVPGAA QSFDAQGEAF
P_involtus_A2	IKAGLSKLQS VQNFTDPKFD	FIKSFTYDLG TSDLVPGAA QSFDAGLEVF
T_pubescens	IQTAVAKLKA ASNYTDPLLA	FVTNYTYSLG QDSLVELGAT QSSEAGQEAF
A_pediades	IQAAVKKLQS AKTYTDPRLD	FLTNYTYTLG HDDLVPFGAL QSSQAGEETF
P_lycii	QVAAVAKIQM ARPFTDPKYE	FLNDFVYKFG VADLLPFGAN QSHQTGTDMY
A_fumigatus	YKKLVTAIQA NATDFKGKFA	FLKTYNYTLG ADDLTPFGEQ QLVNSGIKFY
consphyA	YSALIEAIQK NATAFKGKYA	FLKTYNYTLG ADDLTPFGEN QMVNSGIKFY
A_nidulans	YSGLIEAIQK NATSFWGQYA	FLESNYNTLG ADDLTIFGEN QMVDSGAKFY
A_ficuum_NRRL3135	YSALIEEIQQ NATTFDGKYA	FLKTYNYSLG ADDLTPFGEQ ELVNSGIKFY
A_terreus	YAATIAAIQK SATAFPGKYA	FLQSYNYSLD SEELTPFGRN QLRDLGAQFY
T_thermo	YSQLISRIQK TATAYKGYYA	FLKDYRYQLG ANDLTPFGEN QMQLGIKFY
T_lanuginosa	YAELLQRIQD TATEFKGDFA	FLRDYAYHLG ADNLTRFGEQ QMMESGRQFY
M_thermophila	YVDLIDRIHH GAISYGPQYE	FLRTYDYTLG ADELTRTGQQ QMVNSGIKFY

Fig. 1B

	134	176
	151	200
P_involtus_A1	ARYSKLVSKN NLPFIRADGS DRVVDSATNW TAGFASA...	SHNTVQ
P_involtus_A2	ARYSKLVSSD NLPFIRSDGS DRVVDTATNW TAGFASA...	SRNAIQ
T_pubescens	TRYSSLVSAD ELPFVRASGS DRVVATANNW TAGFALA...	SSNSIT
A_pediades	QRYSFLVSKE NLPFVRASSS NRVVDSATNW TEGFSAA...	SHHVLN
P_lycii	TRYSTLFEGG DVPFVRAAGD QRVVDSSTNW TAGFGDA...	SGETVL
A_fumigatus	QRYKAL.ARS VVPFIRASGS DRVIASGEKF IEGFQQAKLA DPGA.TNRAA	
consphyA	RRYKAL.ARK IVPFIRASGS DRVIASAEKF IEGFQSAKLA DPGSQPHQAS	
A_nidulans	RRYKNL.ARK NTPFIRASGS DRVVASAECF INGFRKAQLH DHGS..KRAT	
A_ficuum_NRRL3135	QRYESL.TRN IVPFIRSSGS SRVIASGKKF IEGFQSTKLK DPRAQPGQSS	
A_terreus	ERYNAL.TRH INPFVRATDA SRVHESAECF VEGFQTARQD DHHANPHQPS	
T_thermo	NHYKSL.ARN AVPFVRCSSG DRVIASGRLF IEGFQSAKVL DPNSDKHDAP	
T_lanuginosa	HYREQ.ARE IVPFVRAAGS ARVIASAEFF NRGFQDAKDR DPRSNKDQAE	
M_thermophila	RRYRAL.ARK SIPFVRTAGQ DRVVHSAENF TQGFHSALLA DRGSTVRPTL	
	177	217
	201	250
P_involtus_A1	PKLNLILPQT G..NDTLEDN MCPAAGD...	SDPOVNA WLAVAFPSIT
P_involtus_A2	PKLDLILPQT G..NDTLEDN MCPAAGE...	SDPVQDA WLASFPSVT
T_pubescens	PVLSVIISEA G..NDTLDDN MCPAAGD...	SDPVVNQ WLAQFAPPMT
A_pediades	PILFVILSES L..NDTLDDA MCPNAGS...	SDPQTGI WTSIYGTPIA
P_lycii	PTLQVVLQEE G..NCTLCNN MCPNEVD...	GD.ESTT WLGVFAPNIT
A_fumigatus	PAISVIIIPES ETFNNNTLDHG VCTKFEA...	SQLGDEVAAN FTALFAPDIR
consphyA	PVIDVIIPEG SGYNNTLDHG TCTAFED...	SELGDDVEAN FTALFAPPAIR
A_nidulans	PVVNVIIPEI DGFNNNTLDHS TCVSFEN...	DERADEIEAN FTAIMGPPIR
A_ficuum_NRRL3135	PKIDVVISEA SSSNNNTLDPG TCTVFED...	SELADTVEAN FTATFVPSIR
A_terreus	PRVDVAIPEG SAYNNNTLEHS LCTAFES...	STVGDDAVAN FTAVFAPAI
T_thermo	PTINVIIIEG PSYNNTLDTG SCPVFED...	SSGGHDAQEK FAKQFAPAIL
T_lanuginosa	PVINVIIISSE TGSNNNTLDGL TCPAAEE...	AP.DPTQPAE FLQVFGPRVL
M_thermophila	PYDMVVIPET AGANNTLHND LCTAEEGPY STIGDDAQDT YLSTFAGPIT	
	218	252
	251	300
P_involtus_A1	ARLNAAAAPSV NLTDTDASFNL VSLCAFLTVS KEKK.....	S
P_involtus_A2	AQLNAAAAPGA NLTDADAFNL VSLCPFMTVS KEQK.....	S
T_pubescens	ARLNAGAPGA NLTDTDTYNL LTLCPFETVA TERR.....	S
A_pediades	NRLNQQAPGA NITAADVSNL IPLCAFETIV KETP.....	S
P_lycii	ARLNAAAAPSA NLSDSDALTL MDMCPFDTLS SGNA.....	S
A_fumigatus	ARAEKHLPGV TLTDEDVVSL MDMCSFDTVA RTSD..ASQ.	LS
consphyA	ARLEADLPGV TLTDEDVVYL MDMCPFETVA RTSD..ATE.	LS
A_nidulans	KRLENDLPGI KLTNENVIYL MDMCSFDTMA RTAH..GTE.	LS
A_ficuum_NRRL3135	QRLENDLPGV TLTDTEVTYL MDMCSFDTIS TSTV..DTK.	LS
A_terreus	QRLEADLPGV QLSTDDVVNL MAMCPFETVS LTDD..AHT.	LS
T_thermo	EKIKDHLPGV DLAVSDVPYL MDLCPFETLA RNHT..DT..	LS
T_lanuginosa	KKITKHMPGV NLTLEDVPLF MDLCPFDTVG SDPVLFPRQ.	LS
M_thermophila	ARVNANLPGA NLTDADTVAL MDLCPFETVA SSSSDPATAD AGGGNGRPLS	

Fig. 1C

	253	300
	301	350
P_involtus_A1	DFCTLFEGIP GSFEAFAYGG DLDKFYGTGY GQELGPVQGV GYVNELIARL	
P_involtus_A2	DFCTLFEGIP GSFEAFAYAG DLDKFYGTGY GQALGPVQGV GYINELLARL	
T_pubescens	EFCDIYEELQ AE.DAFAYNA DLDKFYGTGY GQPLGPVQGV GYINELIARL	
A_pediades	PFCNLFT..P EEFAQFEYFG DLDKFYGTGY GQPLGPVQGV GYINELLARL	
P_lycii	PFCDLFT..A EYVSYEYYY DLDKYYGTGP GNALGPVQGV GYVNELLARL	
A_fumigatus	PFCQLFT..H NEWKKYNYLQ SLGKYYGYGA GNPLGPAQGI GFTNELIARL	
consphyA	PFCALFT..H DEWRQYDYLQ SLGKYYGYGA GNPLGPAQGV GFANELIARL	
A_nidulans	PFCAIFT..E KEWLQYDYLQ SLSKYYGYGA GSPLGPAQGI GFTNELIARL	
A_ficuum_NRRL3135	PFCDLFT..H DEWINYDYLQ SLKYYGHGA GNPLGPTQGV GYANELIARL	
A_terreus	PFCDLFT..A TEWTQYNYLL SLDKYYGYGG GNPLGPVQGV GWANELMARL	
T_thermo	PFCALST..Q EEWQAYDYYQ SLGKYYGNNG GNPLGPAQGV GFVNELIARM	
T_lanuginosa	PFCHLFT..A DDWMAYDYYY TLDKYYSHGG GSAFGPSRGV GFVNELIARM	
M_thermophila	PFCRFLFS..E SEWRAYDYLQ SVGKWyGYGP GNPLGPTQGV GFVNELLARL	
	301	349
	351	400
P_involtus_A1	TNS.AVRDNT QTNRTLDASP VTFPLNKTFY ADFSHDNLMV AVFSAMGLFR	
P_involtus_A2	TNS.AVNDNT QTNRTLDAAP DTFPLNKTMY ADFSHDNLMV AVFSAMGLFR	
T_pubescens	TAQ.NVSDHT QTNSTLDSSP ETFPLNRTLY ADFSHDNQMV AIFSAMGLFN	
A_pediades	TEM.PVRDNT QTNRTLDSSP LTFPLDRSIY ADLSHDNQMI AIFSAMGLFN	
P_lycii	TGQ.AVRDET QTNRTLDSDP ATFPLNRTFY ADFSHDNTMV PIFAALGLFN	
A_fum Q	TRS.PVQDHT STNSTLVSNP ATFPLNATMY VDFSHDNSMV SIFFALGLYN	
umigatus	TRS.PVQDHT STNHTLDSNP ATFPLNATLY ADFSHDNMSI SIFFALGLYN	
consphyA	TQS.PVQDNT STNHTLDSNP ATFPLDRKLY ADFSHDNMSI SIFFAMGLYN	
A_nidulans	THS.PVHDDT SSNHTLDSSP ATFPLKSTLY ADFSHDNGII SILFALGLYN	
A_ficuum_NRRL3135	TRA.PVHDHT CVNNTLDASP ATFPLNATLY ADFSHDSNLV SIFWALGLYN	
A_terreus	THS.PVQDYT TVNHTLDSNP ATFPLNATLY ADFSHDNTMT SIFAALGLYN	
T_thermo	TGNLPVKDHT TVNHTLDDNP ETFPLDAVLY ADFSHDNTMT GIFSAMGLYN	
T_lanuginosa	M_thermophila A.GPVVRDGT STNRTLDGDP RTFPLGRPLY ADFSHDNDMM GVLGALGAYD	
	350	383
	401	450
P_involtus_A1	QPAPLSTSVP NPWR.....T WRTSSLVPFS GRMVVERLSC	
P_involtus_A2	QSAPLSTSTP DPNR.....T WLTSVVPFS ARMAVERLSC	
T_pubescens	QSAPLDPTTP DPAR.....T FLVKKIVPFS ARMVVERLDC	
A_pediades	QSSPLDPSFP NPKR.....T WVTSLTPFS ARMVTERLLC QRDGTSGGP	
P_lycii	ATA.LDPLKP DENR.....L WVDSKLVPFS GHMTVEKLAC	
A_fumigatus	GTEPLSRTSV ESAKE..LDG YSASWVVPFG ARAYFETMQC	
consphyA	GTAPLSTTSV ESIEE..TDG YSASWTVFPG ARAYVEMMQC	
A_nidulans	GTQPLSMDSV ESIQE..MDG YAASWTVFPG ARAYFELMQC	
A_ficuum_NRRL3135	GTKPLSTTTV ENITQ..TDG FSSAWTVFPA SRLYVEMMQC	
A_terreus	GTAPLSQTSV EVSQ..TDG YAAAATVFPFA ARAYVEMMQC	
T_thermo	GTAKLSTTEI KSIEE..TDG YSAAWTVFPG GRAYIEMMQC	
T_lanuginosa	GTKPLSTSKI QPPTGAAADG YAASWTVFPA ARAYVELLRC ETETSSEEEE	
M_thermophila	GVPPPLDKTAR RDPEE..LGG YAASWAVPFA ARIYVEKMRC SGGGGGGGGG	

Fig. 1D

	384		425
	451		500
<i>P_involtus_A1</i>	.....FGT TKVRVLVQDQ	VQPLEFCGGD	RNGLCTLAKF
<i>P_involtus_A2</i>	.....AGT TKVRVLVQDQ	VQPLEFCGGD	QDGLCALDKF
<i>T_pubescens</i>	.....GGA QSVRLLVNDA	VQPLAFCGAD	TSGVCTLDAF
<i>A_pediades</i>	SRIMRNGNVQ TFVRILVNDA	LQPLKFCGGD	MDSLCTLEAF
<i>P_lycii</i>	.....SGK EAVRVLVNDA	VQPLEFCGG.	VDGVCELSAF
<i>A_fumigatus</i>	K..S...EKE PLVRALINDR	VVPLHGCVD	KLGRCKLNDF
<i>consphyA</i>	Q..A...EKE PLVRVLVNDR	VVPLHGCADV	VKGLSWARSG
<i>A_nidulans</i>	E.....KKE PLVRVLVNDR	VVPLHGCADV	KLGRCKRDDF
<i>A_ficuum_NRRL3135</i>	Q..A...EQA PLVRVLVNDR	VVPLHGPVD	VEGLNFARSG
<i>A_terreus</i>	R..A...EKE PLVRVLVNDR	VMPLHGCPTD	VRGLSFARSG
<i>T_thermo</i>	D..D...SDE PVVRVLVNDR	VVPLHGCEVD	SLGRCKRDDF
<i>T_lanuginosa</i>	E..G...EDE PFVRVLVNDR	RWGRCCRDEW	VRGLSFARQG
<i>M_thermophila</i>	E..GRQEKEDE EMVRVLVNDR	VMTLKGCGAD	IKGLTFARQG
	426	439	
	501	514	
<i>P_involtus_A1</i>	GAGDFEKCFA	TSA.	
<i>P_involtus_A2</i>	GAGDFEKCLA	TTV.	
<i>T_pubescens</i>	GEGDFEKCFA	T...	
<i>A_pediades</i>	GQGDFEKCFD	....
<i>P_lycii</i>	GQGDFAKCGF	VPSE	
<i>A_fumigatus</i>	..GNWGECKFS	....
<i>consphyA</i>	..GNWAECFA	*...	
<i>A_nidulans</i>	..GNWKTCFT	L...	
<i>A_ficuum_NRRL3135</i>	..GDWAECFA	....
<i>A_terreus</i>	..GNWADCF.	....
<i>T_thermo</i>	..GNWEGCYA	ASE.	
<i>T_lanuginosa</i>	..GHWDRCF.	....
<i>M_thermophila</i>	..GKWDLCKFA	....

Fig. 2

<u>AAGCTTGGCAAAC</u> TCATCATGCTCATCTGATGATTCCACTGTTCA	<u>GCTACCTGGCTGCTGCTCTCTGTGGTT</u> CATC	80
HindIII	M L I L M I P L F S Y L A A A S L	
CTTGGCCCTGTCGATGTTAAATACTAAACATATTCACCA <u>AGACGTGTA</u> CTCCCTCAGCCAGTGTCC	TGACAR V L S P Q P V S C D	160
GCCCGGAGCTTGGTTACCAATGCGACCAGCAGACAACGCACACCTGGGGTCAATACTCACCCCTCTGTCCC	TCA 240	
S P E L G Y Q C D Q Q T T H T W G Q Y S P F F S V P S		
GAGATCTCCCCTCCGTTCTGATGGCTGCCGCTCACCTCGCCCAAGTCTCTCCGCCACGGCGCCGCTTCCAAC	320	
E I S P S V P D G C R L T F A Q V L S R H G A R F P T		
CCCGGTTAAAGCCGCCATCTCGCTGTCC	400	
ACCAAACTCTGCCACCTGGTACGGTCCCGACTTCAGT P G K A A A I S A V L T K I K T S A T W Y G S D F Q		
TCATCAAGAACTACGACTATGTA	480	
CTTGGCGTAGACCACCTGACCGCGTTCGGGAGCAAGAAATGGTCAACTCCGCATC F I K N Y D Y V L G V D H L T A F G E Q E M V N S G I		
AAGTTCTACCAGCGTACTCCTCCCTCATCCAGACAGAAGACTCGGATA	560	
CGCTCCCCTCGTCCAGGAAACCTCTCCCTCTGCGCCCTCTGGCCAGGA K F Y Q R Y S S L I Q T E D S D T L P F V R A S G Q E		
ACCGGTCA	640	
CGCTCCGCCAGAAGACTTCACCAACCGGTTCTACTCGGCCCTCAGCCGACAAGAACCCCTCCCTCCCTC R V I A S A E N F T T G F Y S A L S A D K N P P S S		
TACCAAGACCAGAAATGGTCATCATTCTGAGGGAGCCAACAGCAACACCATG CACCACGGCTCTGCCGCTCTTT L P R P E M V I I S E E P T A N N T M H H G L C R S F	720	
GAAGATTCCACCACCGCGACCAAGCCAAGCGGAATT	800	
CATCGCCGCCACCTTCCCACCCATCACCGCCGCTCTCAACCGC E D S T T G D Q A Q A E F I A A T F P P I T A R L N A		
CCAAGGTTCAAAGCGTCACCCCTCTCCAACACCGACGTCTACTAATGGACCTCTGCCCTTIGACACCGTGCCT Q G F K G V T L S N T D V L S L M D L C P F D T V A	880	
ACCCCCCTTCCCTCCCTACCACCAACCTCTCCGTTCTGGAGGCGCAAGTTATCCCCTCTGCTCTCTTTCACTGCC Y P L S S L T T T S S V S G G G K L S P F C S L F T A	960	
AGCGACTGGACAATCTACGATTACCTCCAGTCCCTAGGGAAATACTACGGTTCGGCCCGGTAA	1040	
TTCCAGTCAACAGCTTATGCCCGCTTGATCCGTGCTCCGTCTAGATCACACGACGACCAACTCTA S D W T I Y D Y L Q S L G K Y Y G F G P G N S L A A T		
CCAGGGGGTAGGGTACGTCAACGAGCTTATGCCCGCTTGATCCGTGCTCCGTCTAGATCACACGACGACCAACTCTA Q G V G Y V N E L I A R L I R A P V V D H T T T N S	1120	
CTCTTGATGGCGACGAAAAACGTTCCGTTGAACAGAACGGGTATGGGATTTCCATGATAATGATATGATGAAT T L D G D E K T F P L N R T V Y A D F S H D N D M M N	1200	
ATCCTGACTGCTTGGGATATTGAGCATATCAGTCGATGGATAACACCAACTATCCGACCAACTATGCCAGACAGGI L T A L R I F E H I S P M D N T T I P T N Y G Q T G	1280	
AGATGACGGGGTAGGGAAAGGAAAGGATTGTTCAAGGTTAGTGGCGGTGCCCTTGCTGGAGGGTGTACTTGAGAAAA D D G V K E R D L F K V S W A V P F A G R V Y F E K	1360	
TGGTTGATGGGATGGGATGGCAAGATTGATAGTGATGAGGCTCAGAAAGAGTTGGTGAGGATTTGGTTAATGAT M V C D A D G D G K I D S D E A Q K E L V R I L V N D	1400	
CGGGTGTGAGATTAATGGGTGATGCTGATGAACAGGGTAGGTGTGGATTGGAGAAGTTGTGGAGAGTATGGAGTT R V M R L N G C D A D E Q G R C G L E K F V E S M E F	1520	
TGCGAGGAGAGGGGGAGTGGAGGAGAGGT	1580	
TTTGTAGCTAGA A R R G G E W E E R C F V XbaI		

Fig. 3

Fig. 4A

Peniophora numbers	1	37
Alignment numbers	1	50
P_involtus_A1	.....ML FGFVALACLL	SLSEVLATSV P.....KNT APTFPIPESE
P_involtus_A2	.....MH LGFVTLACLI	HLSEVFASV P.....RNI APKFSIPESE
T_pubescens	.....MAFSILASLL	FVCYAYARAV PRAHIPLRDT SACLDVTRDV
A_pediades	.....MSLFIGGCLL	VFLQASAYGG VVQATFVQPF .....FPPQI
P_lycii	.....MV SSAFAPSILL	SLMSSLALST QFSF.....V AAQLPIPAQN
A_fumigatus	.....MVTI TFLLSAAYLL	.SGRVSAAAPS SAGSKSCDTV DLGYQCSPAT
consphyA	.....MGVF VVLLSIATLF	GSTSGTALGP RGNSHSCDTV DGGYQCFCPEI
A_nidulans	.....MAFF TVALSLYYLL	..SRVSAQAP VVQNHSCNTA DGGYQCFCPNV
A_ficuum_NRRL3135	.....MGVS AVLLPLYLLS	GVTSGLAVPA SRNQSSCDTV DQGYQCFCSET
A_terreus	.....MGFL AIVLSVALLF	RSTSGTPLGP RGKHSDCNSV DHGYQCFCPEL
T_thermo	.....MSLL LLVLSGGLVA	LYVS...RNP HVDSHSCNTV EGGYQCRPEI
T_lanuginosa	MAGIGLGSFL VLLLQFSALL	TASPAIPPFW RKKHPNVD.....I
M_thermophila	.....MTGL GVMVVMVGFL	AIASL..... QSESRPCDTP DLGFQCGTAI
C_foecundissimum	.....ML ILMIPLFSYL	AAASL RVLSPSCDSP ELGYQCDQQT
		QPV
	38	83
	51	100
P_involtus_A1	QRNWSPPYSPY FPLAEYKA...	PPAGCQIN QVNIIQRHGA RFPTSGATTR
P_involtus_A2	QRNWSPPYSPY FPLAEYKA...	PPAGCEIN QVNIIQRHGA RFPTSGAATR
T_pubescens	QQSWSMYSPY FPAATYVA...	PPASCQIN QVHIIQRHGA RFPTSGAAKR
A_pediades	QDSWAAYTPY YPVQAYTP...	PPKDCKIT QVNIIQRHGA RFPTSGAGTR
P_lycii	TSNWGPYDPF FPVEPYAA...	PPEGCTVT QVNLIQRHGA RWPTSGARSR
A_fum	SHLGQYSPF FSLEDELSVS	SKLPKDCRIT LVQVLSRHGA RYPTSSKSKK
consphyA	SHLGQYSPY FSLEDESAIS	PDVPDDCRVT FVQVLSRHGA RYPTSSKSKA
A_nidulans	SHVWGQYSPY FSIEQESAIS	EDVPHGCEVT FVQVLSRHGA RYPTESKSKA
A_ficuum_NRRL3135	SHLGQYAPF FSLANESVIS	PEVPAGCRVT FAQVLSRHGA RYPTDSKGKK
A_terreus	SHKGGLYAPY FSLQDESPFP	LDVPEDCHIT FVQVLARHGA RSPTHSHTKA
T_thermo	SHSWGQYSPF FSLADQSEIS	PDVPQNCKIT FVQLLSRHGA RYPTSSKTEL
T_lanuginosa	ARHWGQYSPF FSLAEVSEIS	PAVPKGCRVE FVQVLSRHGA RYPTAHKSEV
M_thermophila	SHFWGQYSPY FSVP..SELD	ASIPDDCEVT FAQVLSRHGA RAPTLKRAAS
	THTWGQYSPF FSVP	SEIS PSVPDGCRLT FAQVLSRHGA RFPTPGKAAA
	84	133
	101	150
P_involtus_A1	IKAGLTKLQG VQNFTDAKFN	FIKSFKYDLG NSDLVPFGAA QSFADAGQEAF
P_involtus_A2	IKAGLSKLQS VQNFTDPKFD	FIKSFTYDLG TSDLVPFGAA QSFADAGLEV
T_pubescens	IQTAVAKLKA ASNYTDPLLA	FVTNTYTLG QDSLVELGAT QSSEAGQEAF
A_pediades	IQAAVKKLQS AKTYTDPLRD	FLTNNTYTLG HDDLVPFGAL QSSQAGEETF
P_lycii	QVAAVAKIQM ARPFTDPKYE	FLNDFVYKFG VADLLPFGAN QSHQTGTDY
A_fumigatus	YKKLVTAIQA NATDFKGKFA	FLKTYNTYTLG ADDLTPFGEQ QLVNSGIKFY
consphyA	YSALIEAIQK NATAFKGKYA	FLKTYNTYTLG ADDLTPFGEN QMVNSGIKFY
A_nidulans	YSGLIEAIQK NATSFWGQYA	FLESNTYTLG ADDLTIFGEN QMVDGAKFY
A_ficuum_NRRL3135	YSALIEEIQQ NATTFDGKYA	FLKTYNTYSLG ADDLTPFGEQ ELVNSGIKFY
A_terreus	YAATIAAIQK SATAFPKGKA	FLQSYNTYSLD SEELTPFGRN QLRDLGQFY
T_thermo	YSQLISRIQK TATAYKGYYA	FLKDYRYQLG ANDLTPFGEN QMIQLGIKFY
T_lanuginosa	YAELLQRIQD TATEFKGDFA	FLRDYAYHLG ADNLTRFGE QMMESGRQFY
M_thermophila	YVDLIDRIHH GAIISYGPQYE	FLRTYDYTLG ADELTRTGQQ QMVNSGIKFY
	ISAVLTKIKT SATWYGSDFQ	FIKNYDYVLG VDHLTAFGEQ EMVNSGIKFY

Fig. 4B

	134	176
	151	200
<i>P_involtus_A1</i>	ARYSKLVSKN NLPFIRADGS DRVVDSATNW TAGFASA.... SHNTVQ	
<i>P_involtus_A2</i>	ARYSKLVSSD NLPFIRSDGS DRVVDTATNW TAGFASA.... SRNAIQ	
<i>T_pubescens</i>	TRYSSLVSAE ELPFVRASGS DRVVATANNW TAGFALA.... SSNSIT	
<i>A_pediades</i>	QRYSFLVSKE NLPFVRASSS NRVVDSATNW TEGFSAA.... SHHVLN	
<i>P_lycii</i>	TRYSTLFEGG DVPFVRAAGD QRVVDSSTNW TAGFGDA.... SGETVL	
<i>A_fumigatus</i>	QRYKAL.ARS VVPFIRASGS DRVIASGEKF IEGFQQAKLA DPGA.TNRAA	
<i>consphya</i>	RRYKAL.ARK IVPFIRASGS DRVIASAEKF IEGFQSAKLA DPGSQPHQAS	
<i>A_nidulans</i>	RRYKNL.ARK NTPFIRASGS DRVVASAECF INGFRKAQLH DHGS..KRAT	
<i>A_ficuum_NRRL3135</i>	QRYESL.TRN IVPFIRSSGS SRVIASGKKF IEGFQSTKLK DPRAQPGQSS	
<i>A_terreus</i>	ERYNAL.TRH INPFVRATDA SRVHESAEKF VEGFQTARQD DHHANPHQPS	
<i>T_thermo</i>	NHYKSL.ARN AVPFVRCSSG DRVIASGRLF IEGFQSAKVL DPHSDKHDAP	
<i>T_lanuginosa</i>	HYREQ.ARE IVPFVRAAGS ARVIASAEFF NRGFQDAKDR DPRSNKDQAE	
<i>M_thermophila</i>	RRYRAL.ARK SIPFVRTAGQ DRVVHSAENF TQGFHSALLA DRGSTVRPTL	
	QRYSSLIDSD TLPFVRASGQ ERVIASAENF TTGFYSALSA DKNPPSSLPR	
	QTE	
	177	217
	201	250
<i>P_involtus_A1</i>	PKLNLILPQT G..NDTLEDN MCPAAGD.... SDPVQNA WLAVAFPSIT	
<i>P_involtus_A2</i>	PKLDLILPQT G..NDTLEDN MCPAAGE.... SDPVQDA WLASFPSVT	
<i>T_pubescens</i>	PVLSVIISEA G..NDTLDDN MCPAAGD.... SDPVVNQ WLAQFAPPMT	
<i>A_pediades</i>	PILFVILSES L..NDTLDDA MCPNAGS.... SDPQTGI WTSIYGTPIA	
<i>P_lycii</i>	PTLQVVLQEE G..NCTLNN MCPNEVD.... GD.ESTT WLGVFAPNIT	
<i>A_fumigatus</i>	PAISVIIPES ETFNNTLDHG VCTKFEA... SQLGDEVAAN FTALFAPDIR	
<i>consphya</i>	PVIDVIIPEG SGYNNTLDHG TCTAFED... SELGDDVEAN FTALFAPPAIR	
<i>A_nidulans</i>	PVNVIIPEI DGFNNTLDHS TCVSFEN... DERADEIEAN FTAIMGPPIR	
<i>A_ficuum_NRRL3135</i>	PKIDVVISEA SSSNNTLDPG TCTVFED... SELADTVEAN FTATFVPSIR	
<i>A_terreus</i>	PRVDVAIPEG SAYNNTLEHS LCTAFES... STVGDDAVAN FTAVFAPAAIA	
<i>T_thermo</i>	PTINVIIIEG PSYNNTLDTG SCPVFED... SSGGHDAQEK FAKQFAPAIL	
<i>T_lanuginosa</i>	PVINVIISEE TGSNNTLDGL TCPAAEE... AP.DPTQPAE FLQVFGPRVL	
<i>M_thermophila</i>	PYDMVVIIPET AGANNTLHND LCTAFEEGPY STIGDDAQDT YLSTFAGPIT	
	P.EMVIISEE PTANNTMHG LCRSFED STTGDQAQAE FIAATFPPI	
	218	252
	251	300
<i>P_involtus_A1</i>	ARLNAAAAPSV NLTDTDASFNL VSLCAFLEVS KEKK.... S	
<i>P_involtus_A2</i>	AQLAAAAPGA NLTDADAFNL VSLCPFMTVS KEQK.... S	
<i>T_pubescens</i>	ARLNAGAPGA NLTDTDYNL LTLCPFETVA TERR.... S	
<i>A_pediades</i>	NRLNQQAPGA NITAADVSNL IPLCAFETIV KETP.... S	
<i>P_lycii</i>	ARLNAAAAPSA NLSDSDALTL MDMCPFDTLS SGNA.... S	
<i>A_fumigatus</i>	ARAEKHLPGV TLTDEDVVSL MDMCSFDTVA RTSD..ASQ. LS	
<i>consphya</i>	ARLEADLPGV TLTDEDVVYL MDMCPFETVA RTSD..ATE. LS	
<i>A_nidulans</i>	KRLENDLPGI KLTNENVIYL MDMCSFDTMA RTAH..GTE. LS	
<i>A_ficuum_NRRL3135</i>	QRLENDLSGV TLTDETEVTVL MDMCSFDTIS TSTV..DTK. LS	
<i>A_terreus</i>	QRLEADLPGV QLSTDDVVNL MAMCPFETVS LTDD..AHT. LS	
<i>T_thermo</i>	EKIKDHLPGV DLAVSDVPL MDLCPFETLA RNHT..DT. LS	
<i>T_lanuginosa</i>	KKITKHMPGV NLTLEDVPLF MDLCPFDTVG SDPVLFPRQ. LS	
<i>M_thermophila</i>	ARVNANLPGA NLTDADTVL MDLCPFETVA SSSSDPATAD AGGGNGRPLS	
	ARLNAGFKGV TLSNTDVLSL MDLCPFDTVA YPLSSLTTTS SVSGGGK LS	

Fig. 4C

	253	300
	301	350
<i>P_involtus_A1</i>	DFCTLFEGIP GSFEAFAYGG DLDKFYGTGY GQELGPVQGV GYVNELIARL	
<i>P_involtus_A2</i>	DFCTLFEGIP GSFEAFAYAG DLDKFYGTGY GQALGPVQGV GYINELLARL	
<i>T_pubescens</i>	EFCDIYEELQ AE.DAFAYNA DLDKFYGTGY GQPLGPVQGV GYINELIARL	
<i>A_pediades</i>	PFCNLFT..P EEFAQFEYFG DLDKFYGTGY GQPLGPVQGV GYINELLARL	
<i>P_lycii</i>	PFCDLFT..A EYVSYEYYY DLDKYYGTGP GNALGPVQGV GYVNELLARL	
<i>A_fumigatus</i>	PFCQLFT..H NEWKKYNYLQ SLGKYYGYGA GNPLGPAQGI GFTNELIARL	
<i>consphyA</i>	PF CALFT..H DEWRQYDYLQ SLGKYYGYGA GNPLGPAQGV GFANELIARL	
<i>A_nidulans</i>	PFCAIFT..E KEWLQYDYLQ SLSKYYGYGA GSPLGPAQGI GFTNELIARL	
<i>A_ficuum_NRRL3135</i>	PFCDLFT..H DEWINYDYLQ SLKKYYGHGA GNPLGPTQGV GYANELIARL	
<i>A_terreus</i>	PFCDLFT..A TEWTQYNYLL SLDKYYGYGG GNPLGPVQGV GWANELMARL	
<i>T_thermo</i>	PF CALST..Q EEWQAYDYYQ SLGKYYGNGG GNPLGPAQGV GFVNELIARM	
<i>T_lanuginosa</i>	PFCHLFT..A DDWMAYDYY TLDKYYSHGG GSAFGPSRGV GFVNELIARM	
<i>M_thermophila</i>	PF CRLFS..E SEWRAYDYLQ SVGKWYGYGP GNPLGPTQGV GFVNELLARL	
	PFCSLFT A SDWTIYDYLQ SLGKYYGFGP GNSLAATQGV GYVNELIARL	
	301	349
	351	400
<i>P_involtus_A1</i>	TNS.AVRDNT QTNRTLDASP VTFPLNKTFY ADFSHDNLMV AVFSAMGLFR	
<i>P_involtus_A2</i>	TNS.AVNDNT QTNRTLDAAP DTFPLNKTMY ADFSHDNLMV AVFSAMGLFR	
<i>T_pubescens</i>	TAQ.NVSDHT QTNSTLDSSP ETFPLNRTLY ADFSHDNQMV AIFSAMGLFN	
<i>A_pediades</i>	TEM.PVRDNT QTNRTLDSSP LTFPLDRSIY ADLSHDNQMI AIFSAMGLFN	
<i>P_lycii</i>	TGQ.AVRDET QTNRTLDSDP ATFPLNRTFY ADFSHDNTMV PIFAALGLFN	
<i>A_fumigatus</i>	TRS.PVQDHT STNSTLVSNP ATFPLNATMY VDFSHDNSMV SIFFALGLYN	
<i>consphyA</i>	TRS.PVQDHT STNHTLDSNP ATFPLNATLY ADFSHDNMSI SIFFALGLYN	
<i>A_nidulans</i>	TQS.PVQDNT STNHTLDSNP ATFPLDRKLY ADFSHDNMSI SIFFAMGLYN	
<i>A_ficuum_NRRL3135</i>	THS.PVHDDT SSNHTLDSSP ATFPLKSTLY ADFSHDNGII SILFALGLYN	
<i>A_terreus</i>	TRA.PVHDHT CVNNTLDASP ATFPLNATLY ADFSHDSNLV SIFWALGLYN	
<i>T_thermo</i>	THS.PVQDYT TVNHTLDSNP ATFPLNATLY ADFSHDNTMT SIFAALGLYN	
<i>T_lanuginosa</i>	TGNLPVKDHT TVNHTLDDNP ETFPLDAVLY ADFSHDNTMT GIFSAMGLYN	
<i>M_thermophila</i>	A.GVPVRDGT STNRTLDGDP RTFPLGRPLY ADFSHDNM MM GVLGALGAYD	
	I RAPVVDHT TTNSTLDGDE KTFPLNRTVY ADFSHDNM MM NILTALRIFE	
	350	383
	401	450
<i>P_involtus_A1</i>	QPAPLSTSVP NPWR.....T WRTSSLVPFS GRMVVERLSC	
<i>P_involtus_A2</i>	QSAPLSTSTP DPNR.....T WLTSSVVPFS ARMAVERLSC	
<i>T_pubescens</i>	QSAPLDPTP DPAR.....T FLVKKIVPFS ARMVVERLDC	
<i>A_pediades</i>	QSSPLDPSFP NPKR.....T WVTSLRTPFS ARMVTERLLC QRDGTTGSGGP	
<i>P_lycii</i>	ATA.LDPLKP DENR.....L WVDSKLVPFS GHMTVEKLAC	
<i>A_fumigatus</i>	GTEPLSRTSV ESAKE..LDG YSASWVVPFG ARAYFETMQC	
<i>consphyA</i>	GTAPLSTTSV ESIEE..TDG YSASWTVPG ARAYVEMMQC	
<i>A_nidulans</i>	GTQPLSMDSV ESIQE..MDG YAASWTVPG ARAYFELMQC	
<i>A_ficuum_NRRL3135</i>	GTKPLSTTTV ENITQ..TDG FSSAWTVPFA SRLYVEMMQC	
<i>A_terreus</i>	GTAPLSQTSV EVSQ..TDG YAAAWTVPFA ARAYVEMMQC	
<i>T_thermo</i>	GTAKLSTTEI KSIEE..TDG YSAAWTVPG GRAYIEMMQC	
<i>T_lanuginosa</i>	GTKPLSTSKI QPPTGAAADG YAASWTVPFA ARAYVELLRC ETETSSEEEE	
<i>M_thermophila</i>	GVPPLDKTAR RDPEE..LGG YAASWAVPFA ARIYVEKMRC SGGGGGGGGG	
	HISPMQDQTGD DGVKE RDL FKVSWAVPFA GRVYFEKMVC DADGDGKIDS	
	NTTIPTNYG	

Fig. 4D

	384	425
	451	500
<i>P_involtus_A1</i>	.....FGT TKVRVLVQDQ VQPLEFCGGD RNGLCTLAKF VESQTFARSD	
<i>P_involtus_A2</i>	.....AGT TKVRVLVQDQ VQPLEFCGGD QDGLCALDKF VESQAYARSG	
<i>T_pubescens</i>	.....GGA QSVRLLVNDA VQPLAFCGAD TSGVCTLDAF VESQAYARND	
<i>A_pediades</i>	SRIMRNGNVQ TFVRILVNDA LQPLKFCGGD MDSLCTLEAF VESQKYARED	
<i>P_lycii</i>	.....SGK EAVRVLVNDA VQPLEFCGG. VDGVCLESAF VESQTYAREN	
<i>A_fumigatus</i>	K..S...EKE PLVRALINDR VVPLHGCVD KLGRCKLNDF VKGLSWARSG	
<i>consphyA</i>	Q..A...EKE PLVRVLVNDR VVPLHGCADV KLGRCKRDDF VEGLSFARSG	
<i>A_nidulans</i>	E.....KKE PLVRVLVNDR VVPLHGCADV KFGRCTLDDW VEGLFARSG	
<i>A_ficuum_NRRL3135</i>	Q..A...EQA PLVRVLVNDR VVPLHGPVD ALGRCTRDSF VRGLSFARSG	
<i>A_terreus</i>	R..A...EKE PLVRVLVNDR VMPLHGCPTD KLGRCKRDAF VAGLSFAQAG	
<i>T_thermo</i>	D..D...SDE PVVRVLVNDR VVPLHGCDEV SLGRCKRDDF VRGLSFARQG	
<i>T_lanuginosa</i>	E..G...EDE PFVRVLVNDR VVPLHGRVD RWGRCRRDEW IKGLTFARQG	
<i>M_thermophila</i>	E..GRQEKEDE EMVRVLVNDR VMTLKCGCAG ERGMCTLERF IESMAFARGN	
	D EAQK ELVRILVNDR VMRLNGCDAD EQGRCGLEKF VESMEFARRG	
	426 439	
	501 514	
<i>P_involtus_A1</i>	GAGDFEKCFA TSA.	
<i>P_involtus_A2</i>	GAGDFEKCLA TTV.	
<i>T_pubescens</i>	GEGDFEKCFA T...	
<i>A_pediades</i>	GQGDFEKCFD	
<i>P_lycii</i>	GQGDFAKCGF VPSE	
<i>A_fumigatus</i>	..GNWGECKFS	
<i>consphyA</i>	..GNWAECFA *...	
<i>A_nidulans</i>	..GNWKTFCFT L...	
<i>A_ficuum_NRRL3135</i>	..GDWAECFA	
<i>A_terreus</i>	..GNWADCF.	
<i>T_thermo</i>	..GNWEGCYA ASE.	
<i>T_lanuginosa</i>	..GHWDRCF.	
<i>M_thermophila</i>	..GKWDLCFA GEWEECFV	
	R	